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RYOBIOBANK SERIES



PRODUCT OVERVIEW

Cryobiobank series provide users with automatic, secure and reliable cryogenic liquid nitrogen freezing systems. Tanks are made of high quality stainless steel, equipped with casters and brakes, and wide neck opening for easy to pick and place specimen. Specimen could be stored in liquid or vapor, and control system provides high convenience and security. To achieve the most economical operation, our design ensures the lowest consumption of liquid nitrogen and the maximum storage capacity of the specimen. The whole tank uses advanced evacuation technology, adiabatic technology and high vacuum retention technology to ensure the safe storage of specimen, good uniform temperature and the lowest liquid nitrogen consumption. When specimen in vapor storage, the entire storage area temperature differences do not exceed 10 °C, and the top of the frozen rack lowest temperature can reach -190°C. Biobank Series provides you with the best storage experience: fast specimen access, reliable protection, convenient liquid nitrogen autofill and flexible storage capacity.

PRODUCT FEATURES

- 1 Compatible with vapor and liquid storage modes;
- 2 Various capacity optional to meet your storage requirements;
- 3 More specimen capacity in a limited space to reduce the storage costs;
- 4 Excellent temperature uniformity and stability;
- 5 Excellent temperature stability after opening lid;
- 6 Advanced temperature, level monitoring and alarm system, remote network monitoring;
- 7 Automatic filling liquid nitrogen system, safe and efficient;
- 8 Controlling system can permanently store operating data;
- 9 One button to demist, easy to search, pick and place specimen;
- 10 User-friendly design, comfortable operation;
- 11 Lockable lid, fully guarantee the safety of the specimen;
- 12 Equipped with folding steps and workbench;
- 13 CE certified;
- 14 Products conform to GB/T 14174-2012.



PRODUCT ADVANTAGES



Big storage capacity

Compared with similar products, our products need less space and could store more samples; save space and also reduce the cost;



Excellent temperature uniformity

Vacuum insulated stainless steel structure, high vacuum coverage to ensure excellent insulation properties;



Stable temperature while lid is open

Innovative lid and excellent small neck openings design can greatly reduce the liquid nitrogen evaporation rate. Even keep the lid open for a long time, the temperature inside the tank can still be very stable; temperature could be not higher than -150°C within 48 hours;



Advanced temperature monitoring system

Microprocessor-based control system and the vertical double platinum resistance temperature probe can display real time temperature, accuracy of $\pm 1^{\circ}\text{C}$. The user can set their own alarm temperature value, with alarm mute option;



Automatic filling liquid nitrogen and liquid level monitoring system

Based on the differential pressure sensor, level monitoring system could display real-time liquid level, to ensure that the liquid nitrogen automatic filling process safe and reliable. 10-inch LCD touch screen display: temperature of the top, bottom temperature, liquid level, and operating status etc.



Hot gas bypass

The hot gas bypass can remove nitrogen which is at indoor temperature before the liquid nitrogen is filled, to ensure that only liquid nitrogen is filled into the tank and avoid temperature fluctuations in the liquid nitrogen tank during the filling process. It would make sure the safety of the sample and also reduce the additional Liquid nitrogen consumption.



Humanization design

Stainless steel auxiliary table, can be used for temporary placement for the racks to speed up the sample picking and placing; folding steps reduce the height of the operation platform; spare opening on the internal tray for easy to find inadvertently dropped samples.

BIOLOGICAL SAMPLE BANK SOLUTION

SCHEME EXPLANATION

Domestic high-standard, ultra-safe, information-based and ecological biological sample bank, from transportation, storage, processing, transformation and other aspects to give samples a comprehensive management plan, to ensure the integrity of samples and maximize the value.

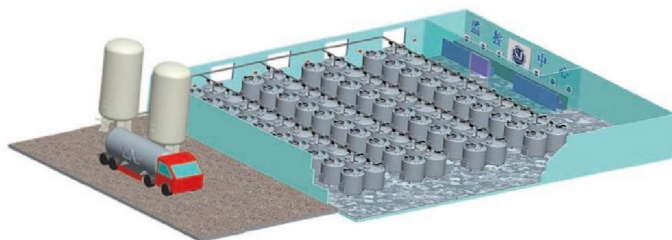
PROGRAM ADVANTAGE

SCIENCE: New cloud platform architecture, cloud services, not only to maintain the integrity of liquid nitrogen tank operation data, but also to rationally allocate authority to achieve independence.

STANDARD: It is designed and manufactured strictly according to the national standard (self-pressurization, national standard for large cans), compatible with and meeting the requirements of ISO 9001 quality management system and EU CE certification.

SAFETY: Advanced sample bank intelligent monitoring system, oxygen concentration monitoring and early warning system, all-round protection of sample safety and personnel, laboratory safety.

SOLUTION OF 10 MILLION BIOLOGICAL SAMPLE BANK



(Suitable for large blood bank and sample bank)

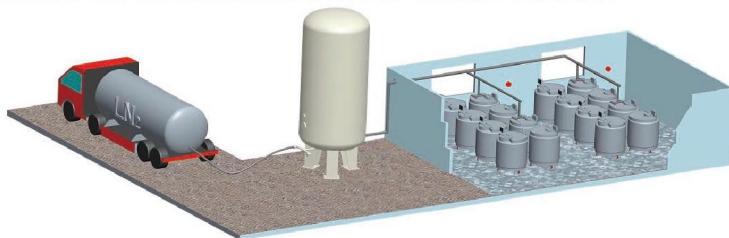
PRODUCTS INCLUDE

- 1 Two liquid nitrogen towers are connected in parallel to supply liquid nitrogen;
- 2 More than 100 1800 liters gas phase tanks;
- 3 The monitoring center has a large screen to display the status of each liquid nitrogen tank;
- 4 Indoor oxygen concentration detection, linkage exhaust system;
- 5 Camera monitoring system, remote monitoring;
- 6 Configuration of backup power supply, automatic switching of power off, to ensure that data is not lost.

PROGRAM ADVANTAGE

Establishment of monitoring center can centralize monitoring data of each liquid nitrogen tank; centralized replenishment of liquid nitrogen lower is faster and does not require a separate replenishment tank; storage capacity is huge and maintenance cost of single sample is lower.

SOLUTION OF MILLION BIOLOGICAL SAMPLE BANK



(Suitable for medium and large sample banks)

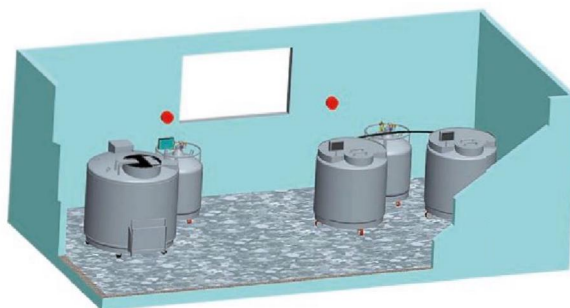
PRODUCTS INCLUDE

- ① One liquid nitrogen tower can also choose small liquid nitrogen tower with pleasant cooling;
- ② More than 10 800 liter gas phase tanks;
- ③ The state of liquid nitrogen tank is displayed by computer;
- ④ Indoor oxygen concentration detection, linkage exhaust system;
- ⑤ It can be equipped with camera monitoring system and remote monitoring;
- ⑥ Configuration of online UPS power supply, automatic switching of power off, to ensure that data is not lost.

PROGRAM ADVANTAGE

The monitoring center can centrally monitor the data of each liquid nitrogen tank; the centralized replenishment of liquid nitrogen tower is faster, and there is no need for separate replenishment tank, so the storage capacity is larger.

SOLUTION OF ONE HUNDRED THOUSAND BIOLOGICAL SAMPLE BANK



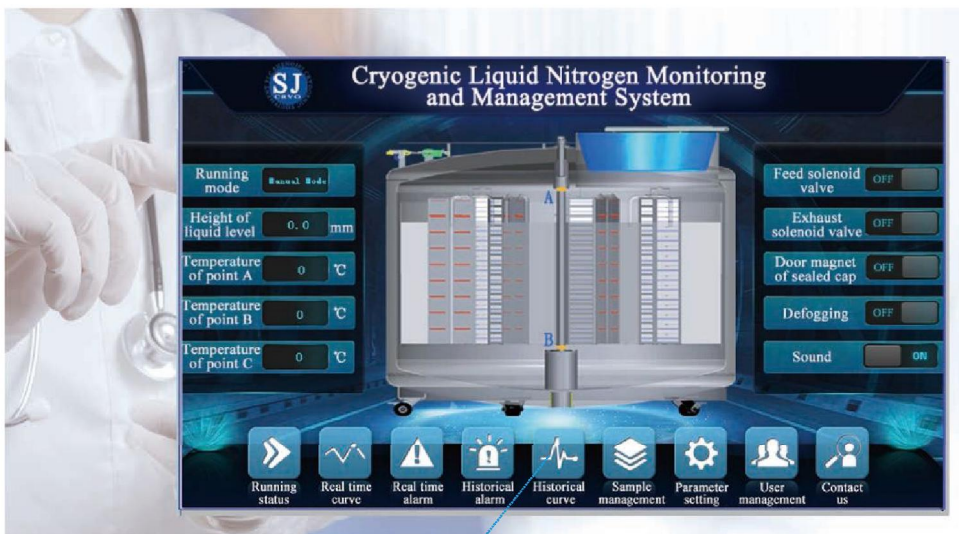
(Suitable for the initial establishment of databases, small sample databases)

PRODUCTS INCLUDE

- ① Self-pressurizing as a replenishment tank, one-to-one or one-to-two, self-pressurizing products do not need pressure vessels to use for record, safe and reliable, low liquid nitrogen loss;
- ② It is equipped with hand-held low oxygen concentration alarm device.
- ③ Single-machine operation or mobile remote monitoring;
- ④ The backup power supply provided by the instrument lasts about 2 days.

PROGRAM ADVANTAGE

Low investment, small site requirements, more flexible layout of liquid nitrogen tanks.






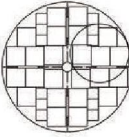
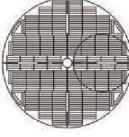
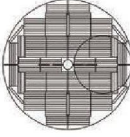
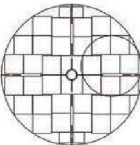
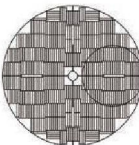
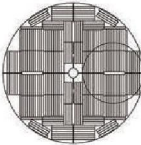
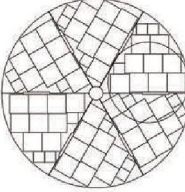
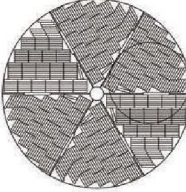
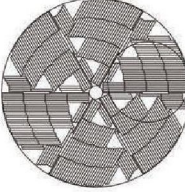
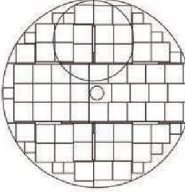
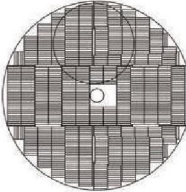
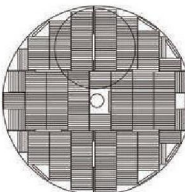
ZJY-700N INTELLIGENT CONTROL SYSTEM



- 1 Automatic liquid nitrogen filling;
- 2 Special structure to prevent liquid nitrogen splashing;
- 3 Hot air bypass function;
- 4 Platinum resistance temperature sensor;
- 5 Differential pressure level sensor;
- 6 Automatic recording level, temperature and other data;
- 7 Local monitoring center;
- 8 Cloud monitoring and management center;
- 9 A variety of alarm self-diagnosis;
- 10 SMS remote alarm;
- 11 Action permission settings;
- 12 Run / alarm parameters settings;
- 13 Sound and light abnormal alarm to remind;
- 14 Backup power and UPS power supply.



RACKS LAYOUT

	Vertical racks	25ml Blood bag racks	50ml Blood bag racks
YDD-350 YDD-450			
YDD-550 YDD-750			
YDD-850 YDD-1000			
YDD-1300 YDD-1600 YDD-1800			
YDD-1300 YDD-1600 YDD-1800			

SPECIFICATIONS

MODEL	YDD-350-VS/PM	YDD-450-VS/PM	YDD-550-VS/PM	YDD-750-VS/PM	YDD-850-VS/PM
LN2 Capacity Under Platform Vapor Storage (L)	55	55	80	80	135
LN2 Capacity (L)	350	460	587	783	890
Neck Opening (mm)	326	326	445	445	465
Usable Internal Height (mm)	600	828	600	828	773
Outer Diameter (mm)	875	875	1104	1104	1190
Overall Height (mm) Containing Instrument Height	1326	1558	1321	1591	1559
Weight Empty (kg)	219	277	328	372	441
Operation Height (mm)	1263	1212	1266	1216	980
Weight Liquid Full (kg)	502	649	802	1005	1160
Door Width Requirement (mm)	895	895	1124	1124	1210

Maximum Storage Capacity of 2ml Internal Rotary Freeze Storage Tube

1,2,1.8 & 2 ml Vials (Internally Threaded) (ea)	13000	18200	27000	37800	42900
Number of Racks with 25 (5x5) Cell Boxes (ea)	4	4	12	12	4
Number of Racks with 100 (10x10) Cell Boxes (ea)	12	12	24	24	32
Number of 25 (5x5) Cell Boxes (ea)	40	56	120	168	52
Number of 100 (10x10) Cell Boxes (ea)	120	168	240	336	416
Number of Stages per Rack (ea)	10	14	10	14	13

Maximum Straw Capacity

High Security Straw Capacity (0.5 ml) (ea)	111312	131220	203040	253800	304920
High Security Straw Capacity (0.25 ml) (ea)	254592	301120	468544	585680	698360
Number of Carisiers (76 mm) (ea)	52	52	112	112	120
Number of Carisiers (63 mm) (ea)	8	8	0	0	16
Number of Carisiers (38 mm) (ea)	28	12	24	24	40
Number of Levels per Carisier (ea)	4	5	4	5	5
Level Height (mm)	135	135	135	135	135

Maximum Blood Bag Capacity

Blood Bag Type	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
25ml (791 OSAU)	1296	6	216	1728	8	216	2376	6	396	3168	8	396	3360	7	480
50ml (4R9951)	792	6	132	1056	8	132	1416	6	236	1888	8	236	2072	7	296
200ml (DF-200)	168	3	56	280	5	56	336	3	112	560	5	112	544	4	136
250ml (4R9953)	300	3	100	500	5	100	552	3	184	920	5	184	944	4	236
500ml (4R9955)	192	3	64	320	5	64	408	3	136	680	5	136	640	4	160
700ml (DF-700)	96	3	32	128	4	32	204	3	68	272	4	68	320	4	80

MODEL	YDD-1000-VS/PM	YDD-1300-VS/PT	YDD-1600-VS/PT	YDD-1800-VS/PM	YDD-1800-VS/PT
LN2 Capacity Under Platform Vapor Storage (L)	135	265	300	320	320
LN2 Capacity (L)	1014	1340	1660	1880	1880
Neck Opening (mm)	465	635	635	635	635
Usable Internal Height (mm)	900	620	791	900	900
Outer Diameter (mm)	1190	1565	1565	1565	1565
Overall Height (mm) Containing Instrument Height	1827	1398	1589	1883	1883
Weight Empty (kg)	495	851	914	985	985
Operation Height (mm)	950	997	967	1097	1097
Weight Liquid Full (kg)	1314	1934	2255	2504	2504
Door Width Requirement (≥mm)	1210	1585	1585	1585	1585

Maximum Storage Capacity of 2ml Internal Rotary Freeze Storage Tube

1.2, 1.8 & 2 ml Vials (Internally Threaded) (ea)	49500	63250	82225	87750	94875
Number of Racks with 25 (5×5) Cell Boxes (ea)	4	13	13	18	13
Number of Racks with 100 (10×10) Cell Boxes (ea)	32	60	60	54	60
Number of 25 (5×5) Cell Boxes (ea)	60	130	169	270	195
Number of 100 (10×10) Cell Boxes (ea)	480	600	780	810	900
Number of Stages per Rack (ea)	15	10	13	15	15

Maximum Straw Capacity

High Security Straw Capacity (0.5 ml) (ea)	365904	447444	559305	720252	671166
High Security Straw Capacity (0.25 ml) (ea)	839232	1029256	1286570	1651500	1543884
Number of Canisters (76 mm) (ea)	120	232	232	234	232
Number of Canisters (63 mm) (ea)	16	24	24	42	24
Number of Canisters (38 mm) (ea)	40	39	39	54	39
Number of Levels per Canister (ea)	6	4	5	6	6
Level Height (mm)	135	135	135	135	135

Maximum Blood Bag Capacity

Blood Bag Type	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
25ml (791 OS/U)	4320	9	480	5172	6	862	6034	7	862	7074	9	786	7758	9	862
50ml (4R9951)	2664	9	296	3270	6	545	3815	7	545	4374	9	486	4905	9	545
200ml(DF-200)	680	5	136	774	3	258	1032	4	258	1110	5	222	1290	5	258
250ml(4R9953)	1180	5	236	1257	3	419	1676	4	419	1950	5	390	2095	5	419
500ml(4R9955)	800	5	160	912	3	304	1216	4	304	1380	5	276	1520	5	304
700ml(DF-700)	400	5	80	465	3	155	620	4	155	660	5	132	775	5	155